

UNCLASSIFIED

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)

DATE

February 2002

BUDGET ACTIVITY

07 - Operational System Development

PE NUMBER AND TITLE

0208060F THEATER MISSILE DEFENSES

PROJECT

4478

COST (\$ in Thousands)	FY 2001 Actual	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	Cost to Complete	Total Cost
4478 Command, Control, Communications, Computers, and Intelligence Enhancements	20,415	0	0	0	0	0	0	Continuing	TBD
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0

Theater Missile Defense pre-EMD efforts in PE 28060F transitioning into EMD in PE 27410.

FY03-07 numbers do not reflect the DoD strategy review results.

(U) **A. Mission Description**

Battle Management, Command, Control, Communications, Computers, and Intelligence (BMC4I) enhancements are needed to reduce timelines required to negate Theater Missiles and Time Critical Targets (TCTs) by increasing interoperability, improving battle management tools, and providing accurate target data via datalinks for Offensive Counterair (Attack Operations) against theater missile and time critical targets. The Combat Air Force (CAF) Concept of Operations (CONOPS) for Command and Control (C2) Against Time Critical Targets and Air Superiority Mission Area Plan (MAP) provide the foundation. The BMC4I program encompasses:

1) Dynamic Battle Management (DBM), the CAF vision for providing flexible, centralized C2 throughout conflict spectrum to meet Joint Vision 2010 objectives. Allows the Joint Force Air Component Commander (JFACC) to tailor decentralized execution to best meet the Rule of Engagement (ROE) and span of control requirements enabling prosecution of any theater missile target and TCTs. Effort will identify technical capabilities and migration path required to support DBM environment consisting of wide area connectivity, decision support tools, and shared information.

2) Automated Planning Tools / Decision Aids which prototype and demonstrate advanced decision aid capabilities to upgrade the battle management tools and infrastructure to better execute the Theater Missile Defense (TMD) mission. Examples include the integration of the Time Critical Target Aid (TCTA) and Joint Defensive Planner (JDP) into Theater Battle Management Core Systems (TBMCS)/ Global Command and Control System (GCCS) architecture as well as the development and migration of the Attack Operations Decision Aid (AODA) into Theater Air Control System (TACS) platforms.

3) Intelligence Preparation Of Battlespace (IPB) which enables the Commander and supporting staff to visualize the full spectrum of adversary capabilities and course of actions (COAs) across all dimensions of the battlespace. Examples include the revision of the methodology for the IPB process as it supports TMD; development

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<p>(U) <u>A. Mission Description Continued</u> of an information architecture populated with linked digital products; generation of training material for use in Air Force schoolhouse and field IPB training; and development of a software Automated Assistance with IPB (A2IPB) tool for TBMCS/GCCS to assist the intelligence analyst at a Joint Intelligence Center (JIC), and the Intel/Ops Planner at an Air Operations Center (AOC).</p> <p>4) Data Link Connectivity which provides upgrades to existing Air Force platforms to better utilize existing communications systems. These include Joint Tactical Information Dissemination System (JTIDS) TMD Message Set Integration and JTIDS gateways to extend range beyond line of sight and interface with National Technical Means (NTM) to provide attack and early launch reporting to theater.</p>		
(U) <u>FY 2001 (\$ in Thousands)</u>		
(U) \$6,165	Continued to develop Theater Missile Defense/Time Critical Targeting (TMD/TCT) decision aid prototypes for Air Operations Centers (AOCs); Automated Application of Intelligence Preparation of the Battlespace (A2IPB) and Joint Terrain Analysis Toolkit (JTAT). Combine prototype decision aids and IPB tools into an integrated set of applications and demonstrate improved automated procedures and IPB system capabilities in Operational Concept Demonstrations (OCDs), Unified Command, Commander in Chief (CINC) experiments and joint exercises. Develop a TMD/TCT contingency capability that includes IPB and design for future production.	
(U) \$5,292	Completed Attack Operations Decision Aid (AODA) Spiral 2. Continue to develop Joint Target Execution (JTE) and Time Critical Targeting Aid (TCTA) prototypes in relation to Joint Services Workstation (JSWS) development effort. Maintain TCT Testbed to improve integration into operational systems. Evaluate additional programs with TMD/TCT applicability for integration and design activities of future system as described in the TCT Capability Operational Requirements Document (ORD). Develop a TMD/TCT contingency capability that includes distributed, collaborative targeting and design for future production.	
(U) \$1,052	Continued to explore communications improvements and architecture issues that compress Theater Missile engagement timelines and demonstrate in OCDs, CINC experiments and Joint Exercises.	
(U) \$4,487	Conducted BMC4I and Attack Operations Operational Concept Demonstrations	
(U) \$3,419	Conducted Development of prototype Joint Surveillance Target Attack Radar System (JSTARS) Automatic Target Recognition (ATR) hardware and software for multisensor application in the TCTA.	
(U) \$20,415	Total	
(U) <u>FY 2002 (\$ in Thousands)</u>		
(U) \$0	No Activity	
(U) \$0	Total	
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(U) <u>A. Mission Description Continued</u>								
(U) <u>FY 2003 (\$ in Thousands)</u>								
(U) \$0 No Activity								
(U) \$0 Total								
(U) <u>B. Budget Activity Justification</u>								
(U) <u>C. Program Change Summary (\$ in Thousands)</u>								
			<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Total Cost</u>		
(U) Previous President's Budget								
(U) Appropriated Value								
(U) Adjustments to Appropriated Value								
a. Congressional/General Reductions								
b. Small Business Innovative Research								
c. Omnibus or Other Above Threshold Reprogram								
d. Below Threshold Reprogram								
e. Rescissions								
(U) Adjustments to Budget Years Since FY 2002 PBR								
(U) Current Budget Submit/FY 2003 PBR								
(U) <u>Significant Program Changes:</u>								
- FY2001 budget is inclusive of BMC4I initiatives and Attack Operations. The FY01-05 budget is reduced to reflect the impact due to budget constraints and funding AF higher priorities.								
(U) <u>D. Other Program Funding Summary (\$ in Thousands)</u>								
	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>Cost to</u>
	<u>Actual</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Complete</u>
(U) AF RDT&E								
(U) Other APPN								
(U) RDT&E, BMDO PMA								
	4,000	200	200	200	200	200	200	TBD
F3261, BM/C4I								
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(U) **D. Other Program Funding Summary (\$ in Thousands)**

	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>Cost to</u>	<u>Total Cost</u>
	<u>Actual</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Complete</u>	
Funding provided by the Ballistic Missile Defense Office for BMC4I interoperability evaluations and prototype development.									

(U) **E. Acquisition Strategy**

HQ Electronic Systems Center (ESC) provides program management for the concept exploration of C4I enhancements. Prototypes and analysis of improvements to existing C4I assets will complement the Attack Operations effort with combined participation in Operational Concept Demonstrations. These Attack Operations and C4I analyses and demonstrations are specifically targeted against operational deficiencies identified in the TMD Mission Area Plan (MAP), are traceable to the AF and the Joint Requirements Oversight Council (JROC) Mission Need Statement (MNS) and are consistent with the Air Force and Joint TMD Concept of Operations (CONOPS) in accordance with Joint Doctrine. Integration of TMD requirements and fielding of proposed material solutions will continue beyond concept exploration in the appropriate program element for a particular system. Existing contracts will be used for those systems where engineering change proposals are appropriate. Systems Engineering and Technical Analysis (SETA) contracts will be used to support the requirements definition phase of TMD improvements. In those areas where new material solutions are necessary to correct a deficiency, the source selection process will be followed.

(U) **F. Schedule Profile**

		<u>FY 2001</u>				<u>FY 2002</u>				<u>FY 2003</u>		
	1	2	3	4	1	2	3	4	1	2	3	4
(U) Establish BMC4I prototype development plan and schedule. Annual review			X									
(U) JEFX demonstrations												
(U) Demonstrate automated IPB procedures and system capabilities in Ops Concept												
(U) CINC experiments and Joint Exercises.			X	X								
(U) Evaluate use of C2 planning/decision aids. Annual Review.												
(U) Continue to explore JTIDS/Link-16 Integration/Improvements. Annual Rev												
* - Completed												
X- Planned Start Date												

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE February 2002			
BUDGET ACTIVITY					PE NUMBER AND TITLE				PROJECT	
07 - Operational System Development					0208060F THEATER MISSILE DEFENSES				4478	
(U) <u>A. Project Cost Breakdown (\$ in Thousands)</u>										
					<u>FY 2001</u>		<u>FY 2002</u>		<u>FY 2003</u>	
(U) Dynamic Battle Management (DBM)										
(U) Intelligence Preparation of the Battlespace					6,165					
(U) Automated Decision Aids/Planning Tools					5,292					
(U) JTIDS/Link-16 Integration & Beyond LOS Capability					1,052					
(U) Operations Concept Demonstrations and CINC Exercises					4,487					
(U) Joint STARS ATC/ATR Demonstration					3,419					
(U) Total					20,415					
(U) <u>B. Budget Acquisition History and Planning Information (\$ in Thousands)</u>										
(U) <u>Performing Organizations:</u>										
<u>Contractor or</u>		<u>Contract</u>								
<u>Government</u>		<u>Method/Type</u>		<u>Award or</u>		<u>Performing</u>		<u>Project</u>		
<u>Performing</u>		<u>or Funding</u>		<u>Obligation</u>		<u>Activity</u>		<u>Office</u>		<u>Total Prior</u>
<u>Activity</u>		<u>Vehicle</u>		<u>Date</u>		<u>EAC</u>		<u>EAC</u>		<u>to FY 2001</u>
										<u>Budget</u>
										<u>FY 2001</u>
										<u>Budget</u>
										<u>FY 2002</u>
										<u>Budget</u>
										<u>FY 2003</u>
										<u>Budget to</u>
										<u>Complete</u>
										<u>Total</u>
										<u>Program</u>
<u>Product Development Organizations</u>										
TRW (AODA)		CPFF		Oct 97		N/A		N/A		2,879
										2,000
										Continuing
										TBD
Boeing (DBM)		T&M		Dec 97		N/A		N/A		2,339
										0
										2,415
Northrop Grumman (DBM)		T&M		Dec 97		N/A		N/A		2,415
										0
										2,932
Zel Technologies (A2IPB)		T&M		May 96		N/A		N/A		3,160
										2,932
										Continuing
										TBD
Sparta (Intel Data Base)		T&M		May 96		N/A		N/A		1,534
										1,100
										Continuing
										TBD
Raytheon (JRE)		T&M		Oct 97		N/A		N/A		2,119
										325
										Continuing
										TBD
Motorola (TCTA)		T&M		Mar 96		N/A		N/A		1,945
										3,259
										Continuing
										TBD
Army TEC (Area Lim)		MIPR		June 99		N/A		N/A		1,635
										1,635
Lockheed Martin EFX		TBD		Nov 99		N/A		N/A		
										Continuing
										TBD
(Analyses)										
Sandia National Labs		MIPR		Oct 99		N/A		N/A		1,125
										Continuing
										TBD
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BUDGET ACTIVITY			PE NUMBER AND TITLE				PROJECT	
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(U) <u>Performing Organizations Continued:</u>								
<u>Support and Management Organizations</u>								
FFRDC	N/A	N/A	2,500	985			Continuing	TBD
Non-FFRDC (ESC)	N/A	N/A	1,031	650			Continuing	TBD
Non-FFRDC (AC2ISRC)	N/A	N/A	540	525			Continuing	TBD
Non-FFRDC (AF/XORT)	N/A	N/A	500	941			Continuing	TBD
<u>Test and Evaluation Organizations</u>								
C2TIG/AFTED			182	4,938			Continuing	TBD
			<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
<u>Subtotals</u>			<u>to FY 2001</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Complete</u>	<u>Program</u>
Subtotal Product Development			16,391	12,376			TBD	TBD
Subtotal Support and Management			4,571	3,101			TBD	TBD
Subtotal Test and Evaluation			182	4,938			TBD	TBD
Total Project			21,144	20,415			TBD	TBD

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